

REMARKS

After entry of the foregoing amendment, claims 55, 57, 60, 66-67, 70-71 and 81-85 are pending in the application. (Claims 75-80 are withdrawn from consideration.)

To narrow the issues for appeal, applicant has canceled claims 52-54, 56, 58-59, 61-65, 68-69 and 72-74. Applicant has amended independent claims 55 and 66.

New claims 81-85 have been added, pursuing subject matter of certain of the canceled claims.

No surrender of subject matter is intended. Rather, applicant is simply preparing a subset of issues for possible appeal. Applicant reserves the right to pursue claims like those originally submitted in one or more related applications.

The Office is thanked for the Examiner's detailed consideration of the application. Nonetheless, applicant respectfully maintains his traverse of the rejections, e.g., as explained below.

Regarding "the educational level of the inventor" being the first-cited factor in determining the level of ordinary skill in the art, the undersigned sees that the latest revision of the MPEP indeed does not list same. The undersigned apologizes for the error. However, earlier versions of the MPEP *did* so cite. A copy of such a page is attached (Exhibit A).

Moreover, the Federal Circuit lists "the educational level of the inventor" as the first factor. In the case cited in the MPEP (§ 2141.03), *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696, 218 USPQ 865, 868 (Fed. Cir. 1983) the Court states:

Factors that may be considered in determining level of ordinary skill in the art include: (1) **the educational level of the inventor**; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field. *Orthopedic Equipment Co., Inc. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376 at 1381-1382 (Fed.Cir.1983). Not all such factors may be present in every case, and one or more of these or other factors may predominate in a particular case. The important consideration lies in the need to adhere to the statute, i.e., to hold that an invention would or would not

have been obvious, as a whole, when it was made, to a person of "ordinary skill in the art"--not to the judge, or to a layman, or to those skilled in remote arts, or to geniuses in the art at hand.

In view of this Federal Circuit instruction, applicant respectfully submits that the educational level of the inventor must be considered. Again, the present inventor has neither a master's degree, nor a degree in computer/electrical engineering.

Because the Office made its determination about the level of ordinary skill in the art without considering the educational level of the inventor, applicant respectfully submits that the Office's determination lacks the proper factual foundation.

Moreover, the Office's reliance on a paper by Hernandez in a scholarly IEEE journal does not fairly evidence the skills of an artisan. It will be recognized that persons who publish in IEEE journals are mostly academics and other extraordinarily-skilled persons, whose expertise is above that of the "artisan." Hernandez was a PhD candidate at Stanford when the article was written – not an ordinary credential. His paper includes formulas that make most artisans dizzy, e.g. his formula 61:

$$\begin{aligned}
 \text{The variance of } r_i \text{ is} \\
 \text{var}(r_i) &= \sum_S \text{var}(r_i|S) \Pr(S) + \sum_S E^2[r_i|S] \Pr(S) \\
 &\quad - \left( \sum_S E[r_i|S] \Pr(S) \right)^2 \\
 &= \sum_{m,n} \alpha^2[m, n] \Pr[m, n] \Pr\{(m, n) \in S_i\} \\
 &\quad + b_i^2 \sum_{m,n} h_{0,0}^2[m, n] \Pr[m, n] (E[\alpha^2] - 1) \\
 &\quad \cdot \Pr\{(m, n) \in S_i\} + \sum_{j=1}^{L-1} b_j^2 \sum_{(k, l) \neq (0, 0)} \sum_{m,n} h_{k,l}^2[m, n] \\
 &\quad \cdot \alpha^2[m, n] \alpha^2[m - k, n - l] \Pr\{(m, n) \in S_i \cap S_j^{k,l}\} \\
 &\quad + b_i^2 \sum_{m_1, m_2, n_1, n_2} \sum_{l=0,0} \alpha^2[m_1, n_1] h_{0,0} \{m_1, n_1\} \\
 &\quad \cdot \alpha^2[m_2, n_2] h_{0,0} \{m_2, n_2\} \\
 &\quad \cdot \Pr\{(m_1, n_1) \in S_i, (m_2, n_2) \in S_j\} \\
 &\quad - b_i^2 \left( \sum_{m,n} h_{0,0}[m, n] \alpha^2[m, n] \right. \\
 &\quad \left. \cdot \Pr\{(m, n) \in S_i\} \right)^2 \quad (61)
 \end{aligned}$$

Virtually every PhD in academia strives to publish as many scholarly papers as possible – causing such extraordinarily-skilled persons to be disproportionately reflected among authors of IEEE journal articles. Indeed, the IEEE touts that its journal authors "include the giants of technology," such as Edison and Marconi (Exhibit B). In contrast,

the industrial artisan who actually works in the computer fields publishes rarely – if at all. (The present inventor has no publications in academic journals such as by the IEEE, despite being the inventor of over 200 issued patents.)

Thus, while applicant would agree that most *authors of IEEE journal articles* have at least an MS degree, there is no showing that “active workers” in the present field are so-credentialed.

Still further, it may be noted that the present assignee, Digimarc Corporation, is the leading company in the field of digital watermarking, with a technical staff (R&D and Engineering) of more than 30.<sup>1</sup> The technical side of Digimarc’s business is headed by a Chief Technical Officer (Tony Rodriguez) and a Vice President of Engineering (Brian MacIntosh). Between them they have 22 issued US patents relating to watermarking. Neither, however, has a master’s degree in engineering (Rodriguez has a BS in Electrical Engineering; MacIntosh has a BS in Business; see their Declarations attached as Exhibits C and D.)

It will be recognized that each case must be decided on its own facts. The Office has correctly noted that “*the present application is directed towards wireless communications systems, cell phone technology in particular and the use of steganography within cell phone systems to prevent cell phone fraud.*”<sup>2</sup> However, the artisan is not charged with inventing wireless, nor cell phone technology, nor steganography. Rather, the artisan is charged with working what’s available, and innovating from there (“standing on the shoulders of giants” as Isaac Newton put it).

Cell phones have some complexities, but their basic operation is straightforward. Take audio, convert to digital form, add some error correction coding (in some embodiments), and transmit as an RF signal. Reciprocally when receiving.

Steganography can also be complex. But it can also be simple – particularly 12+ years ago when the present invention was made. A familiar technique replaces the least

<sup>1</sup> Page 64 of Exhibit E (excerpts from submittal to the Securities and Exchange Commission as Exhibit 99.1 to Digimarc’s Form 10-12/BA filing of September 9, 2008) notes the company had 95 full-time employees, including 37 in research, development and engineering, as of December 31, 2007.

<sup>2</sup> Final Rejection, page 3.

significant bit (LSB) of audio information with a bit of auxiliary data. (Patent 4,750,173 shows this technique.)

So implementation of the claimed arrangement can be as simple as taking an existing cell phone, and replacing the LSB of the audio with auxiliary code.

To suggest that such technology requires a M.S., or familiarity with the complex math excerpted above, is an overstatement.

Error in the Office's analysis is further shown by the statement that "*Practically applying steganography within cell phone technology is not something that is typically done at the BS level of study in engineering.*"<sup>3</sup>

Applicant is the *first* to apply steganography within cell phone technology. It is not done at the BS level of study (or the MS level, or the PhD level) because it is *novel*. It has not been done before. The absence of technology from the BS curriculum does not establish it is *beyond* that level of expertise.

Following the logic of the Office, a BS can *never* be the level of ordinary skill for an artisan making a novel invention. If it's novel, then by definition it "*is not something that is typically done at the BS level*" - so a higher level of skill must be indicated. The fallacy in such reasoning is evident.

On this record, the Board will reverse.

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<sup>3</sup> Final Rejection, page 4.

Turning to the art-based rejections, applicant notes as follows:

Independent claim 52 has been canceled.

Independent claim 55 has been amended. An artisan would not have found it obvious to discard Reed's challenge-response authentication protocol and substitute applicant's claimed arrangement. The only rationale offered for the proposed combination is the advantage that applicant's invention affords if it was so-substituted.

None of the art suggests using steganography to authenticate a cell phone to a base station. (Nor is the claim particularly directed to such use.)

Independent claim 66 has been amended, and requires steganographic encoding prior to any compression of the host data. Lee is a *post-compression* arrangement (c.f., Title). Support for encoding prior to compression is found in incorporated-by-reference patent 5,822,436 (c.f., present spec at page 1, lines 6 and 14-15).

New claim 81 has some similarity to claim 55. However, it requires that the encoding depend on dynamics of the input information, "*so that the encoding applied to one digital value of the input information depends on a relationship between that digital value and one or more other digital values of the input information.*" Hopper does not teach same.

New claim 83 also has some similarity to claim 55. However, it requires that the encoding have a pseudo-random aspect. It will be noted that such an arrangement does not provide private communication on the cell phone – rather, it gives a pseudo-random aspect to the encoding signal. (The encoding signal is *hidden* to the user.)

For brevity's sake, these remarks have only addressed certain of the claims, and have detailed only certain of the distinctions between the claims and the art. However, such discussion is believed sufficient to establish the allowability of all pending claims. Thus, applicant does not further belabor this paper with other arguments concerning the rejections, the art, and the claims – all of which are also reserved for possible presentation to the Board.

Favorable action is solicited.

Date: October 3, 2008

Respectfully submitted,

DIGIMARC CORPORATION

**CUSTOMER NUMBER 23735**

Phone: 503-469-4800  
FAX 503-469-4777

By /William Y. Conwell/  
William Y. Conwell  
Registration No. 31,943

source of the problem with respect to retailer fraud, and that the claimed invention failed to solve the problem of manual clearinghouse operations.).

&gt;

**V. < DISCLOSED INHERENT PROPERTIES ARE PART OF "AS A WHOLE" INQUIRY**

"In determining whether the invention as a whole would have been obvious under 35 U.S.C. 103, we must first delineate the invention as a whole. In delineating the invention as a whole, we look not only to the subject matter which is literally recited in the claim in question... but also to those properties of the subject matter which are inherent in the subject matter and are disclosed in the specification. . . Just as we look to a chemical and its properties when we examine the obviousness of a composition of matter claim, it is this invention *as a whole*, and not some part of it, which must be obvious under 35 U.S.C. 103." *In re Antonie*, 559 F.2d 618, 620, 195 USPQ 6,8 (CCPA 1977) (emphasis in original) (citations omitted) (The claimed wastewater treatment device had a tank volume to contractor area of 0.12 gal./sq. ft. The court found the invention as a whole was the ratio of 0.12 and its inherent property that the claimed devices maximized treatment capacity regardless of other variables in the devices. The prior art did not recognize that treatment capacity was a function of the tank volume to contractor ratio, and therefore the parameter optimized was not recognized in the art to be a result-effective variable). See also *In re Papesch*, 315 F.2d 381, 391, 137 USPQ 43, 51 (CCPA 1963) ("From the standpoint of patent law, a compound and all its properties are inseparable.").

Obviousness cannot be predicated on what is not known at the time an invention is made, even if the inherency of a certain feature is later established. *In re Rijckaert*, 9 F.2d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993). See MPEP § 2112 for the requirements of rejections based on inherency.

&gt;

**VI. < PRIOR ART MUST BE CONSIDERED IN ITS ENTIRETY, INCLUDING DISCLOSURES THAT TEACH AWAY FROM THE CLAIMS**

A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would

lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) (Claims were directed to a process of producing a porous article by expanding shaped, unsintered, highly crystalline poly(tetrafluoroethylene) (PTFE) by stretching said PTFE at a 10% per second rate to more than five times the original length. The prior art teachings with regard to unsintered PTFE indicated the material does not respond to conventional plastics processing, and the material should be stretched slowly. A reference teaching rapid stretching of conventional plastic polypropylene with reduced crystallinity combined with a reference teaching stretching unsintered PTFE would not suggest rapid stretching of highly crystalline PTFE, in light of the disclosures in the art that teach away from the invention, i.e., that the conventional polypropylene should have reduced crystallinity before stretching, and that PTFE should be stretched slowly.).

>However, "the prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed...." *In re Fulton*, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).<

**2141.03 Level of Ordinary Skill in the Art [R-2]**

**FACTORS TO CONSIDER IN DETERMINING LEVEL OF ORDINARY SKILL**

"Factors that may be considered in determining level of ordinary skill in the art include (1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field." *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696, 218 USPQ 865, 868 (Fed. Cir. 1983), cert. denied, 464 U.S. 1043 (1984).

The "hypothetical 'person having ordinary skill in the art' to which the claimed subject matter pertains would, of necessity have the capability of understanding the scientific and engineering principles applicable to the pertinent art." *Ex parte Hiyamizu*,

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**EXHIBIT B**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Art Unit: 2135

Geoffrey B. Rhoads

Confirmation No.: 2884

Application No.: 09/479,304

Filed: January 6, 2000

For: WIRELESS METHODS AND DEVICES  
EMPLOYING STEGANOGRAPHY

VIA ELECTRONIC FILING

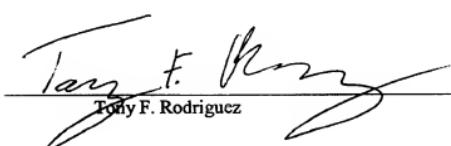
Examiner: P. Pich

**DECLARATION OF TONY F. RODRIGUEZ**

37 CFR 1.132

In connection with the captioned application, I, Tony F. Rodriguez, declare as follows:

1. I hold the position of Chief Technical Officer with Digimarc.
2. Digimarc's business concerns digital watermarking. The company has approximately 80 employees.
3. I earned a Bachelors of Science in Electrical Engineering from the University of Washington. I do not have a Master's degree.
4. I hereby declare that all statements made herein are true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.



\_\_\_\_\_  
Tony F. Rodriguez  
\_\_\_\_\_  
Date 8/5/08

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Art Unit: 2135

Geoffrey B. Rhoads

Confirmation No.: 2884

Application No.: 09/479,304

Filed: January 6, 2000

For: WIRELESS METHODS AND DEVICES  
EMPLOYING STEGANOGRAPHY

VIA ELECTRONIC FILING

Examiner: P. Pich

**DECLARATION OF BRIAN MACINTOSH**

37 CFR 1.132

In connection with the captioned application, I, Brian MacIntosh, declare as follows:

1. I hold the position of Vice President of Engineering with the assignee of the captioned application, Digimarc.
2. Digimarc's business concerns digital watermarking. The company has approximately 80 employees.
3. I earned a Bachelors of Science in Business from Indiana University. I do not have a Master's degree, nor a degree in electrical/computer engineering.
4. I hereby declare that all statements made herein are true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.



Brian MacIntosh

Sept 3, 2008

Date

EX-99.1 8 a2187773zex-99\_1.htm EXHIBIT 99.1

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Exhibit 99.1

, 2008

Dear Digimarc Corporation Stockholder:

I am pleased to inform you that the distribution of all of the shares of common stock of Digimarc Corporation, formerly known as DMRC Corporation and which we refer to as New Digimarc, a wholly owned subsidiary of the former Digimarc Corporation, which we refer to as Old Digimarc, for the benefit of Old Digimarc stockholders was completed on August 1, 2008. New Digimarc holds all of the assets and liabilities used primarily in Old Digimarc's digital watermarking business, as well as all of the cash held by Old Digimarc prior to the distribution.

The distribution was made in connection with the acquisition of Old Digimarc by L-1 Identity Solutions, Inc., in a transaction that was completed on August 13, 2008. On August 1, 2008, the shares of New Digimarc common stock were transferred to a newly created trust for the benefit of Old Digimarc stockholders as of August 1, 2008 at 5:30 pm Eastern time, the record date and time. The shares of New Digimarc common stock will be held by the trust until the Registration Statement on Form 10, of which the accompanying information statement is a part, has been declared effective by the Securities and Exchange Commission, at which time the shares will be distributed to the Old Digimarc record holders, as beneficiaries of the trust, pro rata in accordance with their ownership of shares of Old Digimarc common stock as of the record date and time.

Each Old Digimarc record holder is entitled to receive one share of New Digimarc common stock for every three and one half shares of Old Digimarc common stock held by the stockholder as of the record date and time. The shares will be issued in book-entry form only, which means that no physical stock certificates will be issued. No fractional shares of New Digimarc common stock will be issued. If you would have otherwise been entitled to a fractional share of New Digimarc common stock in the distribution, you will receive the net cash value of the fractional share instead.

New Digimarc has filed an application to list its common stock under the trading symbol "DMRCD" on The Nasdaq Global Market. Old Digimarc's common stock ceased trading on the Nasdaq Global Market following completion of the acquisition of Old Digimarc by L-1 Identity Solutions, Inc.

Stockholder approval of the spin-off is not required, and you are not required to take any action to receive your New Digimarc common stock.

The attached information statement, which is being mailed to all Old Digimarc record holders, describes the spin-off and contains important information about, including financial statements of, New Digimarc.

We look forward to our future as a public company and to your support as a holder of New Digimarc common stock.

Sincerely,

Bruce Davis  
*Chairman and Chief Executive Officer*

---

EXHIBIT E

The information contained herein is not complete and may be changed. A Registration Statement on Form 10 relating to these securities has been filed with the United States Securities and Exchange Commission under the United States Securities Exchange Act of 1934, as amended. This preliminary information statement is not an offer to sell or a solicitation of an offer to buy any securities.

Preliminary and Subject to Completion, dated September 9, 2008

## INFORMATION STATEMENT

### Digimarc Corporation Common Stock (Par value \$0.001 per share)

This information statement is being furnished in connection with the issuance of shares of common stock of Digimarc Corporation, formerly known as DMRC Corporation and which we refer to as New Digimarc, in connection with the spin-off of the digital watermarking business from the former Digimarc Corporation, which we refer to as the Old Digimarc.

The distribution was made in connection with the acquisition of Old Digimarc by L-1 Identity Solutions, Inc., which we refer to as L-1, in a transaction that was completed on August 13, 2008. On August 1, 2008, the shares of New Digimarc common stock were transferred to a newly created trust for the benefit of Old Digimarc stockholders as of the record date and time of August 1, 2008 at 5:30 pm Eastern time, which we refer to as the Old Digimarc record holders. The shares of New Digimarc common stock will be held by the trust until the Registration Statement on Form 10, of which this information statement is a part, and which we refer to as the Form 10, has been declared effective by the Securities and Exchange Commission, which we refer to as the SEC, at which time the shares will be distributed to the Old Digimarc record holders, as beneficiaries of the trust, pro rata in accordance with their ownership of shares of Old Digimarc common stock as of the record date and time.

The shares will be issued in book-entry form only, which means that no physical stock certificates will be issued. No fractional shares of New Digimarc common stock will be issued. If you would have otherwise been entitled to a fractional share of New Digimarc common stock in the distribution, you will receive the net cash value of the fractional share instead.

YOUR VOTE IS NOT REQUIRED, AND WE ARE NOT ASKING YOU FOR A PROXY.

All of the outstanding shares of New Digimarc common stock are now held in trust for the benefit of Old Digimarc record holders. Accordingly, no public trading market for New Digimarc common stock exists. New Digimarc has filed an application to list its common stock under the trading symbol "DMRCD" on The Nasdaq Global Market. We anticipate that normal trading of New Digimarc common stock will begin on the first trading day following the New Digimarc stock delivery date.

**In reviewing this information statement, you should carefully consider the matters described under the caption "Risk Factors" beginning on page 11.**

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved these securities or determined if this information statement is truthful or complete. Any representation to the contrary is a criminal offense.**

This information statement does not constitute an offer to sell or the solicitation of an offer to buy any securities. The date of this information statement is , 2008.

This information statement was first mailed to Old Digimarc stockholders on or about , 2008.

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This information statement contains trademarks, trade names and service marks of companies other than New Digimarc, which are the property of their respective owners.

## BUSINESS OF DIGIMARC CORPORATION

### Overview

Digimarc Corporation enables governments and enterprises around the world to give digital identities to media and objects that computers can sense and recognize and to which they can react. Our technology provides the means to infuse persistent digital information, perceptible only to computers and digital devices, into all forms of media content. The unique digital identifier placed in media generally persists with it regardless of the distribution path and whether it is copied, manipulated or converted to a different format, and does not affect the quality of the content or the enjoyment or traditional usefulness of it. Our technology permits computers and digital devices to quickly identify relevant data from vast amounts of media content.

Our technologies, and those of our licensees, span the complete range of media content, enabling our customers and theirs to:

- Quickly identify and effectively manage music, movies, television programming, digital images, documents and other printed materials, especially in light of new non-linear distribution over the internet
- Deter counterfeiting of money, media and goods, and piracy of movies and music;
- Support new digital media distribution models and methods to monetize media content;
- Leverage the power of intuitive computing to instantly link consumers to a wealth of information and/or interactive experiences related to the media and objects they encounter each day;
- Provide consumers with more choice and access to media content when, where and how they want it;
- Enhance imagery and video by associating metadata or authenticate the content for government and commercial uses; and
- Better secure identity documents to enhance national security and to combat identity theft and fraud.

Our revenue is generated primarily from patent and technology license fees paid by business partners, and development and service contracts with a variety of government and commercial organizations, including a consortium of Central Banks and a major media and audience measurement company.

Financial information about geographic areas is included in Note 4 of our financial statements.

### History

We were formed in Delaware on June 18, 2008 by Old Digimarc to hold and operate the Digital Watermarking Business and to facilitate the separation of its Secure ID Business through the spin-off and the Old Digimarc/L-1 merger. Old Digimarc was founded to commercialize a signal processing innovation known as "digital watermarking." Digital watermarking is a technology that allows our customers to infuse digital data into any media content that is digitally processed at some point during its lifecycle. The technology can be applied to printed materials, video, audio, and images. The inclusion of these digital data enables a wide range of improvements in security and media management, and new business models for distribution and consumption of media content. Over the years our technology and intellectual property portfolios have grown to encompass many related technologies.

Banknote counterfeit deterrence was the first commercially successful use of our technologies. Old Digimarc, in cooperation with an international consortium of Central Banks, developed a system to

deter the use of digital technologies in the unauthorized reproduction of banknotes. More recently, innovations based on our digital watermarking technology and experience have been leveraged to create new products to deter counterfeiting and tampering of driver licenses and other government-issued secure credentials. In parallel, our business partners, under patent or technology licenses from us, are delivering digital watermarking solutions to track and monitor the distribution of music, images, television and movies to consumers. In November of 2007, we announced a relationship with Nielsen to license our patents in support of their audience measurement across more than 95% of the television shows broadcast in the United States and to provide development services for Nielsen's new Digital Media Manager content identification and management system.

#### **Customers and Business Partners**

Our revenue is generated through commercial and government applications of our technologies, including a long-term contract with a consortium of Central Banks. Our contract with the Central Bank consortium is in its tenth year. The contract is in the final year of a 5-year extension and provides for two additional 3-year extensions. The Central Bank consortium has agreed to the first 3-year extension. We also have a development and services agreement with Nielsen, and engage in other development or service initiatives for government or commercial clients from time to time. Other revenue is generated primarily from patent and technology license fees paid by business partners providing media identification and management solutions to movie studios and music labels, television broadcasters, creative professionals and other customers around the world. Patent and technology licensing is expected to continue to contribute most of the revenues from non-government customers for the foreseeable future.

As part of our work with government customers, we must comply with and are affected by laws and regulations relating to the award, administration and performance of government contracts. Government contract laws and regulations affect how we do business with our customers and, in some instances, impose added costs on our business.

In some instances, these laws and regulations impose terms or rights that are more favorable to the government than those typically available to commercial parties in negotiated transactions. For example, the government agency may terminate any of our contracts and, in general, subcontracts, at its convenience, as well as for default based on performance. Upon termination for convenience of a fixed-price type contract, we normally are entitled to receive the purchase price for delivered items, reimbursement for allowable costs for work-in-process and an allowance for profit on the contract or adjustment for loss if completion of performance would have resulted in a loss. Upon termination for convenience of a cost reimbursement contract, we normally are entitled to reimbursement of allowable costs plus a portion of the fee.

In addition, our government contracts typically span one or more base years and multiple option years. The government agency generally has the right to not exercise option periods and may not exercise an option period if the agency is not satisfied with our performance on the contract.

#### **Products and Services**

We provide some media identification and management solutions to commercial entities and government customers. Our license solutions primarily target the media and entertainment industry. We have two multi-year development agreements, one with an international consortium of Central Banks, and the other with Nielsen.

Commercial customers use secure media solutions from our business partners and us to identify, track, manage and protect content as it is distributed and consumed—either digitally or physically—and to enable new consumer applications to access networks and information from personal computers and

mobile devices. Movie studios, record labels, broadcasters, creative professionals and other customers rely on our technologies as a cost-effective means to:

- deter piracy and illegal use of movies, music and images;
- protect entertainment content from copyright infringement;
- track and monitor entertainment content for rights usage and licensing compliance;
- monitor advertisements to verify ad placement and measure return on investment;
- enhance information access, search and marketing capabilities related to media content; and
- enable fair and legitimate use of content by consumers.

Licensees of our technology or intellectual property include AquaMobile, Cinea, Inc., a subsidiary of Dolby Laboratories, Inc., GCS Research LLC, MediaGrid, Microsoft Corporation, Mobile Data Systems, Inc., The Nielsen Company, Royal Philips Electronics, Signum Technologies Limited, Thomson Multimedia, S.A., USA Video, Verance Corporation, Verimatrix, Inc. and VCP (an affiliate of VEIL Interactive Technologies).

#### **Technology and Intellectual Property**

We develop and patent intellectual property to differentiate products and technologies, mitigate infringement risk, and develop opportunities for licensing. Licensing of our technologies is supported by a broad patent portfolio covering a wide range of methods, applications, system architectures and business processes.

Most of our patents relate to various methods for embedding and detecting digital information in video, audio, images, and printed materials, whether the content is rendered in analog or digital formats. The digital information is generally embedded by making subtle modifications to the fundamental elements of the content itself, generally at a signal processing level. The changes necessary to embed this information are so subtle that they are generally not noticeable by people during normal use. Because the embedded digital information is carried by the content itself, it is file-format independent. The embedded digital information generally survives most normal compression, edits, rotation, scaling, re-sampling, file-format transformations, copying, scanning and printing.

To protect our intellectual property rights, we have implemented an extensive intellectual property protection program that relies on a combination of patent, copyright, trademark and trade secret laws, and nondisclosure agreements and other contracts. We believe we have one of the world's most extensive patent portfolios in the field of digital watermarking, with over 370 U.S. and over 85 foreign issued patents and more than 370 U.S. and foreign patent applications on file as of September 8, 2008 in the areas of digital watermarking and related technologies. Separately, we own registered trademarks in both the U.S. and other countries and have applied for other trademarks. We continue to develop and broaden our portfolio of patented technologies, including digital watermarking and related applications and systems.

Although we devote significant resources to developing and protecting our technologies, and periodically evaluate potential competitors of our technologies for infringement of our intellectual property rights, these infringements may nonetheless go undetected or may arise in the future.

#### **Markets**

Our technologies are used in various media identification and management products and solutions supporting a variety of media objects, from movies, music, TV programming and images, to banknotes, secure credentials and physical products or packaging. Each media object enabled by our technology

can be recognized by networks and digital devices, resulting in a wide range of applications for our technologies, including in the fields of:

- counterfeiting and piracy deterrence;
- media management;
- authentication, measurement or monitoring;
- linking to networks and providing access to information; and
- enhanced services in support of mobile commerce.

We believe the market potential for our technologies is in the early stages of development and that existing solutions represent only a small portion of the potential market for our products, services, and technologies.

#### **Competition**

There is no single competitor or small number of competitors dominant in our industry. Our competitors vary depending on the application of our products and services. Our business partners and we generally compete with non-digital watermarking technologies for the security or marketing budgets of the producers and distributors of media objects, documents, products and advertising. These alternatives include, among other things, encryption based security systems and technologies and solutions based on fingerprinting and pattern recognition. Our competitive position within the digital watermarking industry is strong because of our large, high quality, sophisticated patent position in the proprietary technology of digital watermarking and our substantial and growing amount of intellectual property in related media security and management innovations that span basic technologies, applications, system designs, and business processes. Our intellectual property portfolio allows us to use proprietary technologies that are well regarded by our customers and partners and not available to our competitors. We compete with others in our industry based on the basket of features we can offer and a traditional cost benefit analysis of our technologies against alternative technologies and solutions. We anticipate that our competitive position within certain markets may be affected by factors such as reluctance to adopt new technologies and, positively or negatively, by changes in government regulations.

#### **Backlog**

Based on projected commitments we have for the periods under contract with our respective customers, we anticipate our current contracts as of June 30, 2008 will generate approximately \$60 million in revenue during the terms of the contracts, currently running out over four years. We expect more than \$9 million of this amount to be recognized as revenue during the remainder of 2008. This amount includes commitments reasonably expected to be achieved under currently effective contracts. Backlog as of December 31, 2007 and 2006 was approximately \$46 million and \$13 million, respectively.

#### **Employees**

There are two major drivers of revenue in our business—(1) licensing revenues resulting from the monetization of our intellectual property portfolio and (2) services revenue resulting from the projects for the Central Banks and business, commerce, and media and entertainment customers. This services revenue is dependent upon the billable hours worked by highly qualified technical and management resources assigned to these projects. At December 31, 2007, we had 95 full-time employees, including 16 in sales, marketing, technical support and customer support; 37 in research, development and engineering, and 42 in finance, administration, information technology and legal. We also had 4

contract workers, primarily utilized to support billing services. This employee headcount is based on the same allocation methodology that was applied to carving out New Digmarc's financial statements. Our future success will depend, in part, on our ability to continue to attract, retain and motivate highly qualified technical and management personnel, for whom competition is intense. We offered employment to all of the members of our project service teams, and all of them accepted employment with New Digmarc as of August 1, 2008. These offers of employment involved the continuation of the 2008 salary and incentive compensation program through the end of the 2008, and our current benefits plans through their renewal during the second quarter of 2009. We believe that we will be able to provide competitive compensation and equity programs and maintain similarly competitive benefit plans at the time of renewal. For these reasons, we do not anticipate material turnover at this time or in the reasonably foreseeable future, especially among our technical personnel.

Our employees are not covered by any collective bargaining agreement, and we have never experienced a work stoppage. We believe that our relations with our employees are good.

#### **Properties and Facilities**

Our principal administrative, marketing, research, and intellectual property development facility is located in Beaverton, Oregon. Information about our office lease is set forth below.

	<u>Square Feet</u>	<u>Expires</u>
Beaverton, Oregon	46,000	August 2011

#### **Legal Proceedings**

From time to time in our normal course of business we are a party to various legal claims, actions and complaints. Currently, we do not have any pending litigation that we consider material.